What can you do to simplify each?

$\frac{x}{3x+5}$

NOTHING

$\frac{4x-6}{2x+10} = \frac{2(2x-3)}{2(x+5)}$

$= \frac{2x-3}{x+5}$

If instead of $\frac{x}{3x+5}$ you had $\frac{3x+5}{x}$ could you simplify?

divide both terms in the numerator by the denominator.

$\frac{3x}{x} + \frac{5}{x}$

$3 + \frac{5}{x}$

Two things you do on the calculator that give an error message:

- Divide by Zero
- Square Root a negative #

Solve for Q.

State the restrictions on the variables.

$AB - QC = W - AB$

$-AB \quad -AB$

$\frac{-QC}{-C} = \frac{W-AB}{-C}$

$Q = \frac{W-AB}{-C}$

$C \neq 0$

Solve this equation for K. State the restrictions on the variables.

$G(K+E)-X=D$ $+X$

$+X$

$\frac{G(K+E)}{G}=\frac{D+X}{G}$

$K+E=\frac{D+X}{G}-E$

$-E$

$K=\frac{D+X}{G}-E$

$G\neq 0$

Solve this equation for M. State the restrictions on the variables.

$\frac{M+H}{R}+Z=J$ $-Z$

$-Z$

$R\left(\frac{m+H}{R}\right)=(J-Z)R$

$m+H=(J-Z)R-H$

$-H$

$m=(J-Z)R-H$

$R\neq 0$

Solve this equation for A. State restrictions on the variables.

$AC-AE=N$

Factor out an A from both terms on the left side of the equation!

$\frac{A\cdot(C-E)}{C-E}=\frac{N}{C-E}$

Then you can divide by (C-E)

$A=\frac{N}{C-E}$

$C-E\neq 0$

OR

$C\neq E$

Solve for E. State restrictions on the variables.

$\frac{P}{E}+Y=D$

$-Y$ $-Y$

$E\cdot\frac{P}{E}=(D-Y)E$

$\frac{P}{D-Y}=\frac{(D-Y)E}{D-Y}$

$E=\frac{P}{D-Y}$

$D-Y\neq 0$

$E\neq 0$

Solve this equation for B.

$H + X(A + B) = BC$

State Restrictions on the variables

$H + AX + BX = BC$

$-BX \quad -BX$

$H + AX = BC - BX$

$H - AX = B(C - X)$

$C - X$

$\frac{H - AX}{C - X} = B$

$C - X \neq 0$